What is claimed is:

1. A method of illuminating an animal's body, the method comprising:

positioning a light delivery module adjacent to a selected component of an animal's body, the module having first and second light delivery elements that can each be activated to intermittently illuminate the body component with light having at least two wavelengths;

exposing the body component to light from the first light delivery element of the light delivery module, the first element having a first selected range of wavelengths and a second selected range of wavelengths that does not substantially overlap the first range, for a first selected exposure time interval, and allowing light received in this first time interval to produce at least one free electron within or adjacent to the body component;

exposing the body component to light from the second light delivery element of the light delivery module, the second element having a third selected range of wavelengths and a fourth selected range of wavelengths that does not substantially overlap the third range, for a second selected exposure time interval, and allowing light received in this second time interval to produce at least one free electron within or adjacent to the body component, where the first and second exposure time intervals are spaced apart by a dark time interval having a selected length $\Delta t(dark)$ that is at least about 0.1 sec; and

allowing the at least one free electron produced during each of the first and second exposure time intervals to come to equilibrium with the body adjacent to or within the body component.

2. The method of claim 1, further comprising including in at least one of said first, second, third and fourth wavelength ranges at least one of the following wavelengths: 470 nm, 550 nm, 637 nm, 666 nm, 890 nm and 905 nm.

3. The method of claim 1, further comprising providing said light delivery module with a power supply system that comprises first and second independent power supplies, where the first power supply is capable of supplying power for operation of said light delivery module while the second power supply is being recharged.

4. The method of claim 1, further comprising providing said light delivery module with a light delivery wrap that is configured to be wrapped around at least a portion of at least one of the following locations on said animal: a toe, a foot, an ankle, a leg, a thigh, a hip, a torso, a shoulder, an arm, an elbow, a forearm, a wrist, a hand, a finger, a neck and a top portion of a head.

5. The method of claim 1, further comprising:

providing said light delivery module with an attachment mechanism that attaches said light delivery module to a selected region of skin of said animal; and

providing a portable power supply system, connected to and supplying power for said light delivery module.

6. The method of claim 5, further comprising providing said attachment mechanism as a bandaid having a shape that is substantially polygonal.

7. The method of claim 5, further comprising:

providing a second light delivery module and a second attachment mechanism that attaches said light delivery module to a second selected region of skin of said animal, where the second region is adjacent to said first region; and

connecting the second light delivery module to said power supply module so that delivery of electrical power to the second light delivery module is integrated with delivery of power to said first light delivery module.

8. The method of claim 7, further comprising providing each of said first attachment mechanism and said second attachment mechanism as a bandaid having a shape that is substantially polygonal, where said first and second attachment mechanisms can be positioned to be contiguous along a first selected boundary of said first attachment mechanism and a second selected boundary of said second attachment mechanism.

9. The method of claim 1, further comprising providing, as said light delivery module, a light delivery wrap, including at least one of said first and second light delivery elements, that is positioned adjacent to a lower portion of a head of said animal.

10. The method of claim 1, further comprising providing, as said light delivery module, a light delivery wrap, including at least one of said first and second light delivery elements, that is positioned adjacent to an upper portion of a head of said animal.

11. The method of claim 1, further comprising providing, as said light delivery module, a light delivery wrap, including at least one of said first and second light delivery elements, that comprises a first modular component positioned adjacent to a lower portion of a head of the animal and a second modular component positioned adjacent to an upper portion of the animal's head, wherein the first and second modular components together cover substantially all of the upper portion and the lower portion of said animal's head.

12. The method of claim 1, further comprising providing said light delivery module with a light delivery wrap covering substantially all of an upper portion and a lower portion of said animal's head and containing, on the light delivery wrap, at least one aperture for at least one of a group consisting of an eye, a nose, an ear and a mouth.

13. The method of claim 1, further comprising providing, as said light delivery module, a light delivery module that fits within said animal's mouth and illuminates a selected portion of an interior of said animal's mouth.

14. The method of claim 13, further comprising illuminating, with said light delivery module, at least one of a tooth, a gum region adjacent to the tooth, and a portion of a roof in said animal's mouth.

15. The method of claim 13, further comprising deflating or compressing said light delivery module before insertion into said animal's mouth and inflating

or de-compressing said light delivery module after insertion of said light delivery module into said animal's mouth.

16. The method of claim 1, further comprising providing, as said light delivery module, a light delivery module that fits within a cavity of said animal used for reproduction and illuminates a selected portion of an interior of the cavity of said animal.

17. The method of claim 16, further comprising deflating or compressing said light delivery module before insertion into said cavity and inflating or de-compressing said light delivery module after insertion into said cavity.

18. The method of claim 1, further comprising providing, as said light delivery module, a light delivery module that attaches to a selected portion of skin of said animal and provides illumination that induces a medical healing process in a vicinity of the selected portion of the skin.

19. The method of claim 18, further comprising providing a portable power supply, carried by or attached to said animal, for said light delivery module.

20. The method of claim 18, further comprising choosing said selected portion of said skin adjacent to, or coincident with, an acupuncture meridian for said animal.

21. The method of claim 1, further comprising exposing said selected body component to substantially no light within said first and second selected wavelength ranges and to substantially no light within said third and fourth selected wavelength ranges, during said dark time interval.

22. The method of claim 1, further comprising choosing at least one of said first wavelength range, said second wavelength range, said third wavelength range and said fourth wavelength range to be contained in an overall wavelength range 350 nm $\leq \lambda \leq$ 1500 nm.

23. The method of claim 1, further comprising exposing said body component to said light having an energy delivery rate r lying in a range 0.0013 Joules/cm^2/sec $\leq r \leq$ 0.02 Joules/cm^2/sec, during at least one of said first time interval and said second time interval.

24. The method of claim 1, further comprising exposing said body component to said light having an accumulated energy density E(accum) lying in a range 2.5 Joules/cm$^2 \leq$ E(accum) $\leq$ 20 Joules/cm^2.

25. The method of claim 1, further comprising choosing a length $\Delta t(exp)$ for at least one of said first time interval and said second time interval to lie in a range 0.1 sec $\leq \Delta t(exp) \leq$ 1 sec.

26. The method of claim 1, further comprising providing said body component with a low frequency (LF) electromagnetic field having at least one frequency f in a range 1 Hz $\leq$ f $\leq$ 10^4 Hz.

27. The method of claim 26, further comprising including at least one of the following frequencies f in said low frequency field: 1.7 Hz, 4 Hz, 8 Hz, 80 Hz, 266 Hz and 666 Hz.

28. The method of claim 1, further comprising providing said body component with a magnetic field, oriented in a selected direction and having an intensity B in a range of about 100 Gauss $\leq$ B $\leq$ 10^4 Gauss.

29. The method of claim 1, further comprising providing said body component with a low frequency magnetic field, oriented in a selected direction and having at least one frequency f in a range of about 1 Hz $\leq$ f $\leq$ 10^4 Hz.

30. A system for illuminating an animal's body, the system comprising:

a light delivery module, having at least first and second light delivery elements for generating and focussing light to intermittently illuminate a selected component of a human's body with light having at least two wavelengths;

the first light delivery element being arranged to expose the body component to light in a first selected range of wavelengths for a first selected exposure time interval to produce at least one free electron within or adjacent to the body component;

the second light delivery element being arranged to expose the body component to light in a second selected range of wavelengths for a second selected exposure time interval to produce at least one free electron within or adjacent to the body component, where the first and second exposure time intervals are spaced apart by a dark time interval having a selected length $\Delta t(dark)$ that is at least 0.1 sec,

where the at least one free electron produced during each of the first and second exposure time intervals is allowed to come to equilibrium within or adjacent to the body component.

31. The system of claim 30, wherein at least one of said first, second, third and fourth wavelength ranges includes at least one of the following wavelengths: 470 nm, 550 nm, 637 nm, 666 nm, 890 nm and 905 nm.

32. The system of claim 30, wherein said light delivery module is provided with a light delivery wrap that is configured to be wrapped around at least a portion of at least one of the following locations on said animal: a toe, a foot, an ankle, a leg, a thigh, a hip, a torso, a shoulder, an arm, an elbow, a forearm, a wrist, a hand, a finger, a neck and a top portion of a head.

33. The system of claim 32, wherein at least one of said first and second light delivery elements comprises:

an attachment mechanism that attaches said at least one light delivery element to a selected region of skin of said animal; and

a portable power supply system, connected to and supplying power for said at least one light delivery element.

34. The system of claim 33, wherein said attachment mechanism is provided as a bandaid having a shape that is substantially polygonal.

35. The system of claim 33, further comprising:

a second light delivery module and a second attachment mechanism that attaches said light delivery module to a second selected region of skin of said animal, where the second region is adjacent to said first region;

wherein the second light delivery module is connected to said power supply module so that delivery of electrical power to the second light delivery module is integrated with delivery of power to said first light delivery module.

36. The system of claim 35, wherein each of said first attachment mechanism and said second attachment mechanism is provided as a bandaid having a shape that is substantially polygonal, where said first and second attachment mechanisms can be positioned to be contiguous along a first selected boundary of said first attachment mechanism and a second selected boundary of said second attachment mechanism.

37. The system of claim 30, further comprising a light delivery wrap, including at least one of said first and second light delivery elements, that can be positioned adjacent to a lower portion of a head of said animal.

38. The system of claim 30, further comprising a light delivery wrap, including at least one of said first and second light delivery elements, that can be positioned adjacent to an upper portion of a head of said animal.

39. The system of claim 30, further comprising a light delivery module that fits within said animal's mouth and illuminates a selected portion of an interior of said animal's mouth.

40. The system of claim 39, wherein at least one of a tooth, a gum region adjacent to the tooth and a portion of a roof in said animal's mouth is illuminated with said light delivery module.

41. The system of claim 39, wherein said light delivery module can be deflated or compressed before insertion into said animal's mouth and said light delivery module can be inflated or de-compressed after insertion of said light delivery module into said animal's mouth.

42. The system of claim 30, further comprising a light delivery module that fits within a cavity of said animal used for reproduction and illuminates a selected portion of an interior of the cavity of said animal.

43. The system of claim 42, wherein said light delivery module can be deflated or compressed before insertion into said cavity and said light delivery module can be inflated or de-compressed after insertion into said cavity.

44. The system of claim 30, wherein said light delivery module attaches to a selected portion of skin of said animal and provides illumination that induces a medical healing process in a vicinity of the selected portion of the skin.

45. The system of claim 44, wherein said selected portion of said skin is chosen adjacent to, or coincident with, an acupuncture meridian for said animal.

46. The system of claim 30, wherein said selected body component is exposed to substantially no light within said first and second selected wavelength ranges and to substantially no light within said third and fourth selected wavelength ranges, during said dark time interval.

47. The system of claim 30, wherein at least one of said first wavelength range, said second wavelength range, said third wavelength range and said fourth wavelength range is contained in an overall wavelength range 350 nm $\leq \lambda \leq$ 1500 nm.

48. The system of claim 30, wherein a length $\Delta t(exp)$ for at least one of said first time interval and said second time interval lies in a range 0.1 sec $\leq \Delta t(exp) \leq$ 1 sec.

49. The system of claim 30, further comprising an electromagnetic field source that provides said body component with a low frequency (LF) electromagnetic field having at least one frequency f in a range 1 Hz $\leq f \leq 10^4$ Hz.

50. The system of claim 49, wherein said at least one frequency f includes at least one of the following frequencies f in said low frequency field: 1.7 Hz, 4 Hz, 8 Hz, 80 Hz, 266 Hz and 666 Hz.

51. The system of claim 30, further comprising a magnetic field source that provides said body component with a magnetic field, oriented in a selected direction and having an intensity B in a range of about 100 Gauss $\leq B \leq 10^4$ Gauss.

52. The system of claim 30, further comprising a magnetic field source that provides said body component with a low frequency magnetic field, oriented in a selected direction and having at least one frequency f in a range of about 1 Hz $\leq f \leq 10^4$ Hz.